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Project Number S- 118

SOVIET CIVIL DEFENSE CONSTRUCTION

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Soviet Civil Defense Construction

During the past year, information obtained [redacted]

[redacted] have confirmed that an extensive air raid shelter construction program is being continued and possibly accelerated in the Soviet Bloc. The continuation of the construction program is particularly interesting at the present time when Soviet leaders have called publically for increased civil defense efforts. The Soviet civil defense system is being reorganized and supplemental instruction in defense against atomic and BW weapons is being given.

During World War II, the USSR utilized railway tunnels, mines, grain elevators, aqueducts, sewer pipes and wine cellars as air raid shelters. 1/ Subways were also used and it was estimated that 750,000 people were sleeping in the Moscow subway at the height of the German air raids. 2/ Some reinforced concrete shelters were constructed both within existing buildings, and as separate structures. 3/ The bulk of the urban population, however, probably relied on ordinary basements, trenches, or dugouts for protection. 4/

Soviet civil defense authorities are responsible for the review of building plans in order to insure that provisions are made for air defense measures. 5/ These authorities are undoubtedly responsible for the current shelter building program. This has included a program for reconditioning World War II concrete air raid shelters 6/ and the construction of new shelters. Both of these measures were underway by 1949.

25X1

25X1 [redacted] In 1952, civil defense manuals appeared in the USSR containing schematic diagrams of basement shelters and stating that these were provided in accordance with <sup>2</sup> "special plan". 8/

25X1 [redacted] reported that they had indeed worked on the construction of such shelters in the Urals, Volga and Ukrainian areas of the USSR since 1948. Similar reports were received [redacted] concerning construction in Khabarovsk. [redacted] all new buildings (they had seen) were provided with basement air raid shelters. The memory sketches [redacted] were remarkably consistent with each other and similar to the diagrams in the civil defense manuals. Typical reports estimated the cellar depth at 2 to 2 - 1/2 meters with walls varying from 40 to 85 centimeters thick. The basement ceiling thicknesses reported generally varied from 15 to 25 centimeters, but some ceilings were 100 centimeters thick, including reinforced concrete plates. Steel doors to the shelters were double and hermetically sealed. Toilet rooms were observed, and first aid rooms and showers were identified in some shelters. 9/

25X1

The 1956 Soviet civil defense manual also includes a sketch of the basement type shelter (see Figure III p. \_\_\_\_). After briefly discussing heavier structures, the author states that shelters providing "mass protection" in dwellings and factories are the basement type shelters and that they are "safe" against atomic weapons. 10/ The only apparent

25X1

change in protective design from earlier Soviet manuals is the introduction of an anti-blast device and an oil-screen, anti-dust filter into the filter ventilating system. Both of these are stated to be anti-atomic measures. 11/ The remainder of the filter ventilating mechanism remains the same -- it consists of a duct through which outside air is induced by means of an electrically or hand operated fan, anti-gas filters, and distribution ducts within the shelter. (See Figure 7, p.   )

   impressive air raid shelters being constructed in new Soviet apartments this year.    walls of basements were three to four times as thick as walls above ground. A ceiling was described as being composed of an eight inch floor slab, two inches of insulation, five inches of furnace slag or gravel topped with a finish layer of three inches of concrete. All this was finally covered with a wooden floor. Double steel doors were again observed. 12/

Preparation of air raid shelters in the Soviet Bloc is by no means limited to apartment house basements. The recent manual contains sketches of detached shelters, similar to the apartment type but covered with a layer of earth. (See Figure II, p.   ).    reported and sketched one of these he saw at Stalino (See Figure V, p.   ). 13/ Also included in the manual were sketches of bunker-type shelters, (See Figures I and IV, p.   ). both above and below ground, and mention was made of underground galleries to be constructed in suitable hillsides. Examples have been reported of bunker and gallery types of shelters in the European

Satellites.

Important factories in the Soviet Bloc are being equipped with air raid shelters. 14/ Ports and rail terminals have also been the scenes of shelter-building activity. ~~The Satellites generally have civil defense systems patterned after that of the USSR.~~

In the general reorganization for atomic civil defense, further construction measures are implied. A recent Soviet newspaper article on atomic defense of populated areas states that fire-fighting teams should be located along the outskirts of urban areas and on main highways. There, equipment and personnel are to be placed in shelter. 15/ It seems likely that other civil defense bodies having post attack roles would receive similar protection. According to the 1956 Soviet manual the emergency engineering (utility repair) crews will be located on a dispersal basis. 16/

Another construction measure for civil defense, being carried on in the Soviet Bloc is the preparation of auxiliary water supplies for emergency fire-fighting. Such sources of auxiliary water include concrete reservoirs, 17/ ponds, 18/ and swimming pools. 19/

Although it is not publicized, the Soviets have expressed an awareness of the limited protection afforded by basement type shelters under atomic attack. The construction of deep level shelter in areas outside several Satellite cities has been reported and it is probable similar construction has been carried on in the USSR. 20/ It is not believed that dispersed shelter is presently available for more than a limited number of headquarters and control personnel. Civil defense instructions

of 1956 still advise citizens to utilize locally available shelter even under conditions of atomic attack.

In adapting the civil defense system to atomic attack, the Soviets have called for a reorganization. The 1956 manual reflects some shifts in organization to include two special services for decontamination of areas and for the decontamination of personnel and clothing. 21/ It also omits mention of such former services as transport and evacuation 22/ but these functions may have been transferred to military or paramilitary organizations.

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A new DOSAAF newspaper -- Patriot Rodiny --

appeared this year publicizing modern civil defense. Steps are being taken to disseminate instruction in atomic and BW defense, measures not previously made included in information available to the general public.

25X1

SOVIET AIR RAID SHELTERS

Plan Sketches

From Manuals

Reported

Implementation

Fig I  
Soviet Bunker

Fig IV  
Air Raid Bunker, Constanta

Fig II  
Detached Air Raid  
Shelter

Fig V  
Shelter, Stalingrad

Fig III  
Apartment Shelter

Fig VI  
Roof of Bomb Shelter  
(showing reinforcement,  
concrete poured and  
vibrator used),  
Czechoslovakia

Figure VII Filter Ventilating System of  
Soviet Air Raid Shelter, (from 1956  
Manual)



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Next 1 Page(s) In Document Exempt

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